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ABSTRACT

The study takes place in a field setting at three different schools. Each group is composed of two black and two white students assigned randomly to either an experimental or control condition. Fourteen groups were run for each condition or a total of 28 groups. In the control condition both blacks and whites receive the same neutral training procedure including the basic rules for playing a game of strategy. The training is given to the whole group, separating racial pairs into two different rooms. In the experimental condition, black subjects receive an assertion training while the white subjects receive the neutral control training procedure. Following the training period the group reassembles in the game room and plays the game of strategy. Observers score initiation and influence to document the emerging power and prestige order for each group. The white subjects were more active in the control groups. In 64 percent of the experimental groups, however, blacks hold one of the high-ranking positions. According to the index of initiation rates, the status ordering in the experimental condition is the reverse of the control condition; blacks dominate instead of whites. Further the improvement of black performance does not entail a significant reduction in white activity. [Not available in hard copy due to marginal legibility of original document.] (Author/ JM)

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TECHNICAL REPORT NO. 3

CHANGING A RACIAL STATUS ORDERING BY MEANS OF ROLE MODELING*

By

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CHAPTER I

BRIEF DESCRIPTION OF THE PROBLEM AND RESEARCH

Interracial interaction disability is an abstract term used to describe the differential behavior of persons from different racial backgrounds when they are working together in a task-oriented, interracial group. (Cohen, 1967) As the term suggests, repeated inequalities in performance emerge among members of different races when working together. It is believed that part of this imbalance reflects the differences in expectations that are held by members of one race for members of a different race.

These differential expectations for members of different races grow out of those generally held beliefs which are historically and currently in existence within the society. For example, in this society, a person with black skin is generally expected to be less able in academic areas of performance than a person with white skin. (Katz, Epps, Axelson, pp. 77-83) In an interracial task-oriented group the reinforcement of these differential expectations occurs when the power and prestige order emerges and systematically favors people with white skin. Given this reinforcing cycle of beliefs, expectations, differential performances, and further confirmation of

beliefs, a self-fulfilling prophecy is established and it is difficult to change.

The theoretical framework for understanding the process of interracial interaction disability is provided by sociologists in the theory of status characteristics and expectation states. (Berger, Cohen, Zelditch, p. 29) The theory attempts to formalize a large body of experimental findings in small-group research. It postulates an underlying expectation structure which is made manifest by the power and prestige order. The theory states the scope conditions under which a given diffuse status characteristic becomes activated and the process by which the general expectations held for a specific state of the diffuse status characteristic becomes associated with the specific skills required to perform well on a new task.

The emergence of interracial interaction disability is an interesting phenomenon in itself. But from an educator's point of view, and particularly a practitioner's, it is important to know how to reverse or stop the negative effects of unfavorable expectations which are based on irrational characteristics such as race. Two investigators have studied this phenomenon and have attempted to alter the negative effects of race in an interracial group setting. Both I. Katz and E. Cohen have worked independently in studies with students who possess black and white skin color. The different interventions used by Katz and Cohen

have been called assertion training and expectation training, respectively.

Assertion and expectation training have focused on the behavior of low-status members in the group, in these studies the black students. The essential idea is to set up conditions whereby the low-status members perform as well or better than the high-status members on a new task. Hopefully the beliefs and expectations begin to change after this intervention such that low-status members will now be viewed differently (more positively) by the high-status members. Verification of these changes is based on observation in another new post-intervention task.

As reviewed later in this paper, the intervention training procedures of I. Katz and E. Cohen have been weak in changing the behavior of blacks when compared to the behavior of whites. The research reported in this paper is based on a different experimental attempt to change the performance of blacks when working together with whites.

The expectation training devised for this study was based on social learning principles as developed and empirically tested by A. Bandura. The intended effect of the expectation training was to directly change the behavior of low-status performers. Social learning principles suggested some powerful techniques for accomplishing this change in a short time period. Basic components such as

peer modeling of desired behavior and guided participation and encouragement from a high-status-role model were combined in a treatment procedure (for this study). Although these social learning principles have not been used previously in systematically changing behavior in a bi-racial situation, the empirical work of A. Bandura and others suggested their applicability to the interracial situation. (Bandura, 1969, pp. 143-167)

The basic design, scoring system, and task used in this study is a direct derivative of the work of E. Cohen with whom I have worked as a student for three years. The attempt was to change the status ordering of black members that emerges in a four-man interracial group by using an expectation training based on social learning principles. The results of the expectation training were compared to the results of control groups with blacks who received no special training.

The findings from this study are considered a relevant part of a series of studies aimed at establishing in an empirical manner the conditions necessary for equality of educational opportunity to take place in our schools.

CHAPTER II

THEORETICAL PERSPECTIVE--PLACING THE PROBLEM OF INTER-RACIAL INTERACTION DISABILITY INTO A RESEARCH FRAMEWORK

There are many ways of thinking about race and its effects on educational outcomes. One approach used by many sociologists is to place the terms race and racial stereotyping under the more abstract heading of "status characteristic."

The term status characteristic has been used and defined many ways. Following the earlier work of Hughes and the more recent work of Berger, Cohen, and Zelditch a status characteristic stands for an evaluation. (Berger, Cohen, Zelditch, 1966) The evaluation consists of a general statement of comparative worth: a person with one state of a status characteristic is better or worse than another individual with a different state of the same status characteristic.

There are many examples of status characteristics in our society: race, sex, occupation, wealth, religion, and hierarchical position. Since the early 1950's sociologists have done a number of studies showing how status characteristics predict the power and prestige order in task-oriented groups.

The authors of these studies generally did not mention the term status characteristic and performed their studies independently and under a variety of experimental conditions using a wide range of tasks. It was not until the early 1960's that Berger, Cohen, and Zelditch built a more general theory about status characteristics and their effects on group processes based on these earlier experimental studies.

The research of Slater is typical of the small-group studies and influenced my own work. Slater, who worked under Robert Bales at Harvard, was concerned with the emergence of role differentiation among initially status-equal participants in task-oriented small groups. (Slater, 1955, pp. 300-310) His subjects were male college undergraduates who were asked to solve as a group a human relations problem. Each group was given a time limit to discuss the problem and reach a decision as to what should be done.

. . . . The interaction for each group was scored by observers and these interaction profiles were compared to individual responses on post-meeting questionnaire items. Slater asked the group participants four questions: who contributed the best ideas, who did the most to guide the discussion, how well did you like the other members, and who stood out as the leader.

One of the important results of Slater's research was the high correlation between the amount of talking a person did and the ratings he received for best ideas, most guidance, and leadership. The average intercorrelations for the above items with the total amount of talking is .80. (Slater, Table 3, p. 302) The high intercorrelation among these indicators of power is an important point that justifies the significance attached to initiation rates in my own research. Slater used only subjects who were initially status equals but during the process of group decision-making differentiation invariably occurred and a stable status hierarchy emerged. Soon after Slater did his work a number of other investigators showed how specific status characteristics could predict in advance each person's group role and position in the status hierarchy.

In studies of jury deliberations, Strodtbeck found that two variables, sex and occupation, could predict initiation rates and influence over final jury decisions. (Strodtbeck, James, Hawkins, 1957, pp. 713-719) Caudill showed how professional position in a mental health hospital affected decision-making during conferences. (Caudill, 1958) Torrance goes one step further by showing how Air Force hierarchy can extend its influence into problem-solving areas that have nothing to do with regular Air Force duties. (Torrance, 1954, pp. 130-140) Katz,

whose work will be reviewed in more detail later in this thesis, did a series of studies showing the effects of race on power and prestige orders. (Katz, Goldston, Benjamin, 1958, pp. 123-141)

Probably the most disturbing and powerful effect of a status characteristic is its ability to carry with it a general expectation and evaluation into new tasks requiring new skills that have never been previously associated with the particular status characteristic. This process by which a status characteristic diffuses into new situations and affects the expectations members hold for one another, which eventually is reflected in the emerging power and prestige order, and in turn is re-enforced by differential evaluations of each member's performance, has been formalized into the theory of status characteristics and expectation states. It is this theory with its assumptions, scope conditions, and major hypotheses that underlies the study reported in this thesis.

The main elements of the theory can be stated as follows. A diffuse status characteristic is defined. Then the conditions assumed to be necessary for activating the diffuse status characteristic (D) are stated. Following this an assumption is made about the process by which a diffuse status characteristic spreads to a new situation requiring a skill that has not been previously related to the diffuse status characteristic. A third assumption

states the process by which a balanced assignment is made, linking the positively valued state of the status characteristic with the high state of all skills required to perform the new task.

The fourth and last assumption states that the observable power and prestige order in a group will be a reflection of the underlying process which assigns differential values to members of the group who possess different states of a diffuse status characteristic. (Berger, Cohen, Zelditch, 1966)

> Definition 1: A characteristic D is a diffuse status characteristic if and only if
> (1) the states of D are differentially evaluated
> (2) to each state, x, of D there corresponds a distinct set Dx of specifically associated, evaluated states of characteristics, and
> (3) to each state, x, of D there corresponds a distinct general expectation state, GESx, having the same evaluation as the state Dx. (p. 33)

In the study reported here, race, as determined by skin color, is the diffuse status characteristic. The specific states of D (race) in this study are black and white and these states have differential evaluations in this society. The set of characteristics associated with black skin color was documented by Johnson in "The Stereotype of the American Negro." (Johnson, 1944) Although this historical work is now dated, the generally held racist stereotyping of Negroes has not disappeared.

The Riot Commission Report of 1967 stated firmly that white racism stood out as a major factor in causing discontent among non-whites in this society. (Riot Commission Report, pp. 203, 206). The negative association made with black skin color results in a general expectation of less competent performance for blacks than for whites. This attitude is not only held by whites but also by blacks. The doll study of Kenneth Clark is a poignant demonstration of how negative racial stereotypes are held by young Negro children. Clark presented pairs of black and white dolls that were identical in every respect except skin color. Two of these dolls were brown with black hair and two were white with yellow hair. The dolls were presented to 253 Negro children who varied in ages from three to seven and in regional origin. The children were asked to choose among the dolls which one they would like to play with, which one was a nice doll, which one looked bad, and which one had a nice color. Regardless of age or region Negro children overwhelmingly preferred the white doll and overwhelmingly chose the "colored" doll as looking bad. (Clark, 1941, pp. 602-611)

What are the conditions for activating the general expectations of a diffuse status characteristic? How can we describe, generally, the situation in which racial stereotypes will be used as a means of deciding who is capable of performing a task and who is not? This

decision is often made irrespective of the individual's own abilities.

Four conditions are required for activating the diffuse status characteristic. (Berger, Cohen, Zelditch, 1966) First, members of the group must perform a collective and valued task which means they must take into account each other's behavior and the different outcomes of the task can be viewed as successes or failures.

Second, the task must require some form of ability such that one state of the ability is more likely to lead to a successful outcome than another state of the ability.

Third, it is assumed that no one has ever previously associated the ability to do the task with any of the members of the group.

Fourth, members of the group are assumed to be differentiated on the basis of a single external status characteristic. These conditions form the important scope conditions of the theory. The procedure section of this thesis discusses how each condition has been met in the current study.

When we have a situation that involves people with a certain status characteristic performing a task requiring certain specific skills, it is important to understand how the states of the status characteristic become associated with the states of specific new abilities. Once the task begins, participants start making suggestions

as to how the group shall proceed in order to achieve a successful outcome. The dilemma for group members is to form some basis for deciding whose ideas are best. Particularly if the task is ambiguous, that is, there is not an immediate rule which tells everyone which ideas are correct and which are not, then group members must look elsewhere to decide who is more likely to have good ideas. At this point the differential expectations associated with the diffuse status characteristic are very helpful. They help everyone to decide who can be expected to perform well at the new task. Unless there is a specific reason to the contrary, members will assign the high ability of the new task to those members who generally are expected to perform well.

In the case of black students the expectation has a negative assignment and blacks are expected to do poorly at most new tasks when being compared to whites. The diffusion of negative expectations would probably be reversed if the task involved athletic, music, or dancing abilities due to specific expectations about black superiority in those areas. Most of the evidence found in support of the theory of status characteristics and expectation states shows that once a status hierarchy has been established with regard to a specific task it is extremely difficult to change that arrangement.

One reason why a status hierarchy is unlikely to change is the assumed connection between the underlying expectation structure, operating within each individual, and the observable power and prestige order. The observable power and prestige order consists of four verbal interaction components: task performances, action opportunities, positive evaluations, and negative evaluations. When added together, these components form the basic initiation index and the varying rates on interaction among group members, as measured by this index, serves as a confirmation of the differences in the underlying expectation structure. A number of studies have been done by Berger and his associates verifying the assumed relationship between differential expectations and a stable power and prestige order. (Berger and Conner, 1969) A main finding of the "Dartmouth" study was that as time passed, rigidity in the status structure increased. That is, once a status ordering emerged, there were very few subsequent changes in the rank order positions of group members as measured by the basic initiation index during later time intervals. The "Dartmouth" study by Berger has another important finding. In one condition of the experiment, an individual's expectation for his partner's ability was manipulated into a high or low category. In this situation the status ordering emerged faster and was more rigid than among groups that had members with initially equal expectations

for each other. (Berger and Conner, 1969)

Moore did a similar study in which he manipulated the expectations of junior college students for their partner while they performed a co-operative, ambiguous task. The task consisted of making judgments about a series of slides each of which showed two rectangles filled with varying patterns of black and white squares. The task demanded, first, making an individual decision as to which pattern has the greater amount of white area and then, second, making a joint decision with a partner. The decisions were made on a mechanical console in front of each participant and the information each person received about his partner's choice was manipulated by the console to guarantee disagreement ninety per cent of the time. The critical choice came when a person had to make a final decision after receiving the manipulated information from his partner. It was predicted that the status of the individual compared to his partner would be the crucial factor in determining how often he would change his original decision. Moore found that low-status persons were more likely to yield to their partner's choice in this decision-making task. (Moore, 1968)

Summarizing these studies, their results are important in understanding that a status hierarchy, once formed, is unlikely to change over time. In addition, differential expectations for self and other is a good predictor of each

member's position in the status hierarchy. Finally, differences along a single status dimension is a good predictor of differential expectations which leads to differences in power and prestige.

The attempt in this thesis was to teach and motivate individuals with low status to observe and practice a pattern that approximates high-status behavior. Thus we wanted to see if our training procedure was sufficiently strong to bring about a change in the behavior of low-status members when participating with high-status members on a co-operative task. Such changes in overt behavior should, theoretically, reflect changes which have taken place in the underlying expectation structure within each member of the group. A change in the underlying expectation structure cannot be verified directly; it is assumed to be directly linked to the emerging power and prestige order as measured by the basic initiation rate and an influence measure. In the study reported here, race becomes the basis for predicting low status and high status. It is assumed that in an interracial task-oriented group students who possess black skin will be expected to perform less competently than students with white skin.

Two separate investigators, I. Katz and E. Cohen, have worked to change expectations and performances of bi-racial groups by use of an intervention technique. The essential features of assertion training as used by Katz

in bi-racial groups are as follow:

1. Blacks and whites perform a shared task.
2. Blacks receive differential amounts of information that guarantee equal status behavior.
3. Whites are placed with blacks in the task situation where whites can visibly see equal status behavior by blacks.

Katz used math problems where he rigged the correct answers for blacks 50 per cent of the time and then guaranteed that the black subjects would perform in a competent manner. (Katz and Cohen, 1962) Prior to the assertion training and then again after the training session, pairs of black and white college students were asked to judge the length and areas of geometric objects in ambiguous pictures. Although the black students did improve their ability to influence their white partners in the post-test situation, the author was unclear as to what produced the effect. We have no indication that the blacks became more assertive in the post-test situation. As the author suggested, it may have been that the whites were simply more acquiescent in the experimental situation. It is interesting to note that Katz reported an increase in the hostility of whites toward blacks as expressed in post-meeting questionnaire. The hostility took the form of white subjects saying they would prefer to work with another partner and that they did not want to return and do a similar experiment with the same partner. The increase in hostility, if perceived by blacks during the experimental

treatment, would run counter to Katz's theoretical assumptions about the conditions under which blacks will behave more assertively. According to the author's assumptions, any increase in perceived threat should inhibit black performance. (Katz and Cohen, 1962)

Cohen began her research with the same problem as Katz--how to improve the competency of the blacks in a biracial situation. But her analysis of the problem differed from Katz. Cohen used the assumptions and guidelines of status characteristic theory to design a series of experiments. The intervention she designed has been labeled expectation training and its main elements are as follow:

1. Blacks receive a training procedure that teaches them highly competent behavior for a specific task.
2. Whites receive a neutral training procedure which neither hinders nor helps their performance on the same specific task.
3. Blacks and whites work together on the specific task and independent observation is made concerning the relative competency of each participant. (Cohen, 1970)

Dr. Cohen's first study attempted to gain a baseline of behavior and establish some empirical verification for the assumptions and predictions of status characteristic theory. In this case the subjects were junior high school boys who played a verbal game of chance and strategy involving fourteen group decisions. During a game, two pairs of black and white students played together as a team. The theory predicts interaction profiles and influence.

The main results of this first study confirmed the predictions of the theory. In about 70 per cent of the groups, whites held the first and the second ranks in interaction and were the most influential 80 per cent of the time. (Cohen, 1969, p. 15)

In a second study Cohen used the building of a radio crystal set as an expectation training. In this case, the four-man teams of black and white students played the strategy game first, then built the radio crystal set after blacks had received a superior set of building instructions, and then played the strategy game a second time. The results from this second experiment have been analyzed, and were disappointing in relation to the main hypothesis. The differences between control groups and experimental groups were negligible with whites generally in control of the task in both variations of experimental treatments. (Cohen, 1970)

How could we strengthen expectation training procedures, within societal limits, in order to produce a more consistent and effective change in the status ordering and to achieve a distribution of interaction which approximates equal status for black and white students? When I refer to equal status conditions, I have in mind a behavioral measure. Two measures are of special importance in ascertaining the status ordering: first, the total initiation index which is simply a measure of the

total number of times a person speaks to the group and, second, an influence measure which is the number of times the group accepts for its final decision a suggestion from an individual. These measures have been reliably used by Cohen in her studies. (Cohen, 1969, pp. 9-15)

Equal status conditions within a single group would imply that the initiation indexes were of similar quantity for blacks and whites and that influence would be evenly distributed among all members. Previous empirical research, using initially equal status members, tells us that such equal status conditions are very rare to find in problem-solving groups. At some early point in the group decision making, differentiation of roles occurs and remains throughout completion of the task.

The problem faced by black students is a serious one in this situation. The status characteristic of black skin connotes a general and diffuse set of negative expectations, particularly when he compares himself to the white student. For example, why would whites expect him to do well on a verbal task? Particularly if the white student has already seen the black perform on a verbal task and the black said very little, there is little basis for anyone to expect a change.

What is needed is a strategy which attacks more directly the basis on which the status ordering is being established. If verbal skills are the means by which a

person establishes a high-status position for himself in a task situation, then verbal skills are what must be changed directly to affect the status ordering.

Implicit in this research and the intervention designed for this study are some basic assumptions about behavior and the conditions that lead to behavior change. Following the ideas of Bandura I have assumed that behavior is not exclusively controlled by internal needs and drives. Instead much observable behavior is a response to external rewards and punishments that exist in a social interaction system. The system of rewards and punishments that are perceived by an individual constitute a set of contingencies which tend to maintain or extinguish behavior.

These assumptions help explain the social learning viewpoint about the relationship of attitudes to behavior change. Festinger in his review of the literature found a very low correlation between any reported change in attitudes and a subsequent change in behavior. (Festinger, 1964) However, when the relationship is reversed, Bandura has found considerable association between a change in behavior and a change in attitudes. (Bandura, Blanchard, Ritter, 1968) A behavior change is brought about by altering in a systematic fashion the set of contingency responses that are maintaining a specific behavior. Our first goal in changing the behavior of low-status individuals is to specify what behaviors needed changing and what new behaviors we would like to establish. The assumption here

is that a change in behaviors, under proper conditions, would lead to a change in attitudes.

To accomplish this goal, I watched the video tapes of the interracial groups in Cohen's two previous studies. For each group I had data on the initiation rates and thus could select groups on the basis of different racial status orderings. In those groups where blacks were not influential there were apparent skill deficits. That is, the black participants not only tended to speak infrequently but when they did, their sentences were too often very brief. (Cohen, 1969, p. 26) As a result, if the group did not respond to a black participant's suggestion, he often remained silent for a considerable period of time. Black subjects rarely used coalition behavior as a means of winning the group over to their ideas. Further, it was rare for blacks to defend their ideas with a lengthy discussion about the merits of their plans. These observations summarize the main behavioral deficits that I observed watching the video tapes.

Second, the novelty of the Stanford laboratory setting and the novel experimental procedures seemed to generally inhibit some black students from participating at all. This was particularly striking in cases where a black individual would hardly speak a word throughout the study but as soon as he was taken home again and reached his own local neighborhood a torrent of discussion would

take place among his friends.

Faced with these two problems, skill deficits and experimental inhibition, social learning theory suggests some principles and methods for changing the behavior of black students. Bandura has found that models, either as peers or with high status, can be effective in demonstrating and inducing subjects to try new behaviors. (Bandura, 1969, pp. 143-167) Peers can be particularly effective in demonstrating new behavior, especially when subjects see that no aversive consequences follow. (Bandura, 1969, p. 128) In addition, guided participation at the encouragement of a high-status model affords the subject a chance to practice new styles of behavior. Such practice is particularly effective when done in small increments each of which results in successful accomplishment. (Bandura, 1969, pp. 161-162) Although most of these procedures have been developed to change subjects who suffer from neurotic and pathological symptoms, these procedures have also been used more generally in the classroom to establish behavior change. (Staats, 1965)

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

The basic design of the study was experimental in a natural field setting. Within certain limitations, the design meets the basic scope conditions as set forth by status characteristic theory.

The study was conducted at three different junior high schools in two communities. In general, the social class composition in one community is middle and upper middle class. Two of the schools are located in this community. The second community is largely a lower middle-class community. A more complete and detailed description of the two communities and the student populations in the respective schools can be found in Chapter VI.

All of the schools were integrated with varying percentages of racial composition. The four-man groups were drawn from within each school and consisted of two black and two white students.

The design of this experiment follows the scope conditions as set forth by status-characteristic theory. The scope conditions are critical in establishing the basic social situation in which a status characteristic will be operative. Four scope conditions have been paraphrased

from status-characteristic theory as defined by Berger, Cohen, and Zelditch. Following each paraphrase are concrete descriptions of how this study attempted to meet such conditions.

Selection of Subjects:

Scope condition from theory: I. It is assumed that none of the individuals has specific expectations for himself or another person in the group relevant to performance on the task. (Berger, Cohen, Zelditch, 1966, p. 34)

Since all of the subjects within a group attended the same school, were of the same sex, and in the same grade level, there was a good chance that this condition would be violated on several occasions. Particularly if a subject shared an academic class with another person, he may have had definite ideas about the specific verbal and intellectual ability of that individual. Keeping the above constraints in mind, we chose a black and white student sample from each school that would enable us to run ten groups per school.

It is important to try to give some evidence as to how often this first scope condition was violated. Since we had access to class schedules, it was possible to arrange our groups such that no two members in a group shared a math or English class together. Occasionally we were forced by circumstances to place together two subjects who shared a foreign language or social studies class. Many more violations occurred regarding physical

education classes. In the absence of precise calculations, about twenty-five per cent of our groups had two group members who shared a physical education class. The reason for this violation is obvious; the physical education classes are very large. However, the author has no evidence that this particular violation of the scope condition posed any special problem for the experiment. Also, it could be argued that expertise in physical education skills has no relationship to the experimental game of strategy.

The final selection of subjects at each school was accomplished in the following manner. School counselors provided the project director with a list of all male black students in the seventh and eighth grades. From this list twenty weie chosen, randomly, at each school.

Then the project director went to the school class files and randomly picked out names. If the student were male and white he was included in the sample. Cards were picked randomly until all groups were filled.

The forty names or ten groups at each school were presented to the school counselors. They were asked if any of these students consistently failed most subjects or received the best grades in any subject. In those cases where individual students were designated by counselors as extremely competent or incompetent based on grades, such students were dropped from the lists and new names replaced them.

The reasoning here was that for purposes of a short and brief intervention we did not want the sample contaminated with individuals of exceptionally high or low ability. Instead we strove to create thirty groups consisting of students in the broad middle range of ability. On the basis of class schedule, no two subjects who shared an academic class were placed in the same group. In addition, based on their home address, no group had two subjects who lived in the same immediate neighborhood.

Scope condition from theory: II. It is assumed that the participants within each group differed on a single external status characteristic (race) and that this was the only observable difference among the participants. (Berger, Cohen, Zelditch, 1966, p. 35)

To meet this condition we considered what other main external status variables could influence our results. Social class, social power, age, and sex were considered the main external variables. Clothes or specific knowledge about an individual's home were the main indicators of social class. General size and bulk were used as an indicator of social power among boys.

As mentioned in the previous section, age was controlled by keeping grade level constant. All of our groups were composed of boys in seventh or eighth grades. Size was controlled by height. Each boy fell into one of three categories: tall (over 5 feet 5 inches), medium (over 5 feet but not tall), and small (under 5 feet). Each

group consisted of subjects in the same size grouping.

In this study, social class was not precisely controlled. In addition to the problem of trying to control for many variables and still being able to compose a group there was a specific applied reason for not controlling social class.

Social class as a status variable works much the same way as race in establishing expectations for performance. Thus if whites tend to have a higher social class than blacks, the higher social-class position reinforces the high expectations of race. If the social-class position of whites and blacks is the same, then the effect of race will determine the order of expectations. If the social-class position of blacks is greater than whites, this condition would confound the results on theoretical grounds. Based on an observation of the de facto segregated housing arrangements we assumed that in general the social-class position of the white students would be higher than the black. Actual data dealing with this issue for our sample is reported in Table 9.

Assuming we were correct about the relative social-class position of the white students, what is the anticipated effect on our results by not controlling this very powerful variable? By allowing whites the advantage of social class it will be more difficult to change the status ordering of whites relative to blacks who hold a lower

social-class position.

On theoretical grounds this is not the most desirable situation unless you have specifically designed your study to test the relative strengths of race and social class as two independent variables. This is not the purpose of this study but there are good applied reasons for not worrying too much about this contamination of the independent variables.

At some point in this research or future research we would like to have specific advice for a school system or classroom teacher who wishes to overcome the deleterious expectation effects of race. The argument would be that the closer we come to dealing with a reality setting in designing our interventions, the better would be our chances for overcoming some of the unanticipated effects of transferring the results of a laboratory to the school setting.

The other two scope conditions in status characteristic theory refer to task conditions that are required for activating a diffuse status characteristic.

> Scope condition from theory: III. We assume that the subjects are required to perform a valued, collective task. By saying the task is valued we mean that some outcomes of the task are considered a success and others are considered a failure. By saying the task is collective we mean that the subjects must interact with each other in order to solve the task. (Berger, Cohen, Zelditch, 1966, p. 34)

The task in this study is the same one used by Cohen in her previous work. It is a game of strategy called "Kill the Bull." The game is played on a board two feet by two feet. The object of the game is for the team to win as many points as possible while moving from a starting position to a final goal. Each team has fourteen decisions or rolls of the die to win points and reach the goal. Prior to each turn the group must choose what seems to be the best path among a number of alternative paths. After the group has decided which path to pursue, the host experimenter rolls a die and moves a marker the number showing on the die. Each space has a number value on it; some are positive and others are negative.

From a statistical or rational point of view there is no best path in this game. Almost every possibility has good features and dangerous features. The average score in a game is usually a positive value somewhere close to one thousand points. Group scores have ranged from a high of four thousand points to a low score of minus one thousand. It is a rare event for any group to score less than zero total points although it is a fairly common event for a group to wander away from the goal and not reach it within the required fourteen turns. In Appendix A the task has been described in some detail.

In explaining the rules of the game to the students, it is emphasized that this task requires group

participation and that everyone must agree with the final group decision. The host experimenter makes sure that decision making is not done by a single person or individuals by turn in order to avoid discussion. In either case he reminds the group that this task requires group effort each turn and the decision must be agreed upon by everyone.

> Scope condition from theory: IV. We assume the task requires a specific ability and that there are different states of this ability. With one state of the ability we expect successful performance and with another state of the ability we expect failure. (Berger, Cohen, Zelditch, 1966, p. 34)

In the current task there is a considerable chance element that determines success or failure for the group decision. Nonetheless in a post-meeting questionnaire given by Cohen during her first study using this task, two-thirds of her subjects believed that the task required as much or more skill than luck in performing successfully on the task. The skill in this task appears to be the ability to choose a path with a high likelihood of success for the group and defend that path against other alternative suggestions that could be made.

Experimental Environment

This study took place in each of the three schools mentioned on page 23. In each case the schools were able to provide us with a makeshift utility room or extra

classrooms in order to conduct our work. Each group was notified in the morning of the day of their actual participation. An experimental session lasted one class period of fifty minutes. In general, our staff ran two or three groups each day.

The staff itself was integrated. The director of the project was white, the four observers were all females, two white and two black. In addition there was a role model for the black students who was a male, black, recent high-school graduate, and the host experimenter was a male graduate student from India.

The neutrality of our host experimenter was achieved partly by standardizing his role interaction with the young student participants, partly by his neutral brown skin color, and partly by his serious demeanor and clipped accent. The latter factor seemed to establish a serious task atmosphere for the students and forced them to listen carefully if they were to follow the instructions.

Since the study was conducted on site at the school, it can be assumed that, unless we intervened, within one or two days of running the study every student in the school would know all about our routine. The intervention we established gave us considerable confidence that each group faced a unique experience and did not receive any advance information from their peers. This air of silence was maintained in the following manner:

at the end of each group's participation the director of the project gave all four boys a contract to sign as he read the contract to the students. A copy of the contract can be found in Appendix B. In effect, the participants were requested to remain silent about the study; they signed an agreement which said they would keep silent, and they were told they would receive a dollar at the end of the entire study at their school if there were no information leaks.

Experimental Procedure

1. Four boys arrive outside the classrooms where the study is being held and are asked to sit quietly in preparation for the instructions.

2. Host experimenter tells the four boys they are participating in a unique experience. They are to play a game of strategy which none of them has ever played before. It is assumed that everyone will try his best, but that there is no way of knowing how well any one individual will do. Host experimenter then says that before playing the actual game each participant must receive some instructions. The instructions are given on a small TV screen and therefore the group must be split up into two pairs while receiving the instructions.

3. Host experimenter allows each boy to take a card with a number from one to four. He then asks each

participant to tell him the number he picked and then appears to assign the students randomly to two different rooms to receive the instructions. Of course, he always arranges it such that the white students go to one room and the black students to another, but this pairing has the appearance of a chance happening rather than someone saying the two whites go that way and the two blacks come over here.

4. The black students are met by the black role model and go to a separate room from the white students who are met by one of the staff observers. The actual staff observer who gave instructions to the white students was varied with each group, hopefully maintaining a standard approach but avoiding a systematic bias.

5. The white students receive the same instructions regardless of whether they are in a control or assertion training condition. The procedure for white students lasted eighteen minutes and consisted of three parts.

a) an eight-minute film on the history of games in America. Students saw a video tape film made at an elementary school with a dialogue explaining certain common features in everyday school games.

b) a two-page questionnaire was given to each white student asking him whether or not he played a wide range of indoor and outdoor games and how much he enjoyed playing those games.

c) a tape-recorded set of instructions used in the Cohen study in conjunction with a

facsimile copy of the actual game board. The copy of the game board was similar enough to the actual game board to gain an idea about the game, but insufficient to provide any preconceived ideas about a best path to follow.

6. The black students received one of two treatments depending on the experimental condition. In the control condition they received the same procedure that the white students went through. In the expectation training procedure there were three essential steps.

a) Step one - a brief introduction to the game of Kill the Bull on a facsimile copy of the actual game board, similar to the white situation.

b) Step two - the black role model then says that other groups have played this game before and the participants might be interested in how a group plays this game. The black role model then plays a video tape of a four-minute excerpt of one group from the previous Cohen study. Following the four-minute excerpt the black role model asks the black students to rate all four members of the group he has just seen on seven criteria. Following the rating procedure, the role model asks the black participants to watch another four-minute excerpt, just to see how another group plays the game differently. Following this excerpt there is another rating session similar to the first.

c) Step three - the black role model asks each black student three questions:
   (1) How do you get other people to go along with your ideas?
   (2) What do you do if the entire group wants to go in a foolish direction and you see a better path?
   (3) What do you do if someone disagrees with the path that you have suggested?

> For each of the questions the role model has been trained to reinforce any response in which the students say in effect, I will continue to fight for my idea if I think it is the best one available to the group.

The excerpts that the black students see have some important qualities. They were chosen from among twenty different groups in the original Cohen study. In the first group excerpt, the group interaction is lively, but one black player is clearly outstanding. He talks more than anyone else, is considerably more influential, and, in general, he dominates the play of the entire group. In the second group excerpt the interaction is once again very lively, but this time the two black members work together as a coalition to dominate the proceedings.

It is important to emphasize what is being accomplished by step three. This step is following the social-learning principle of guided participation. The intent of this procedure is not for the black students to practice deciding which paths they will pursue during the actual game. That is impossible since the facsimile copy of the game board does not have any paths or values that are similar to the actual game board. Instead the role model is encouraging the black students to articulate general principles that will guide their participation. After asking each of the questions in step three the role model gets a response from both black participants and

tries to encourage any response where the black student says that he will continue to try to persuade the group to accept his idea for a team path to follow.

Following the various training procedures both pairs of blacks and whites return to a central meeting place and are now ready to perform the task.

The task is a game of strategy called "Kill the Bull," and is described in detail in Appendix A. Prior to entering the game room each participant draws a number randomly from one to four which determines his seating position during the game.

Once inside the game room the host experimenter points out to the participants the small television camera. He informs them that this camera is transmitting a picture with sound to the next room where observers are watching to see how well everyone does.

The group now begins to play the game of strategy and observers score initiation and influence measures. At the end of the game the project director brings out a short, written contract which is signed by all the participants. The participants agree that they will not tell anyone in their school about this study for one month and in exchange for their secrecy they will receive one dollar.

Methodology: Data Collection

The primary data for this study were collected during the game of strategy played by two black and two

white students. The data consist of an initiation and influence index.

The initiation measure is a gross index based on a unit score for each uninterrupted speech segment. Not every speech is counted. Both nonrelevant comments to the task and comments directed at the host experimenter were not counted. The unit of measure does not differentiate length of speech or quality of speech; it only indicates how often an individual speaks to the group. Crude as the measure may be, it does correlate highly with many more sophisticated and more complex scoring system categories. Cohen, in her study, used a modified Bales Scoring System, consisting of performances, action opportunities, positive evaluations, negative evaluations, and receipt of initiation. Each of those categories correlate highly with the total initiation index. Initiation rates were scored during the study by two independent observers who watched the participants on a large television monitor in a separate room away from the experiment.

The influence measure was also scored under the same conditions as initiation rates by two independent observers. The influence measure consists of two parts: unique suggestions and paths followed. Unique Suggestions are scored each time a participant verbally or non-verbally explicitly proposes a path or strategy for the group to follow. Paths Followed are scored each time the group

agrees to follow someone's unique suggestion as the group path. Paths followed is the fundamental indicator of the influence measure.

During the control and expectation training procedure several pieces of data were collected, some of it useful and some not. In the control situation the white and black subjects fill out a contrived questionnaire about indoor and outdoor games. The questionnaire was designed to take time but not to reveal any information relevant to the study.

During the experimental condition, black subjects in the expectation training watch two four-minute excerpts of previous groups who have played "Kill the Bull." In this situation the subjects watch black students who are verbally aggressive while playing the game with white students.

After viewing each excerpt a black role model gives the black student participants a rating form. The students were able to see the video excerpt again without sound in order to remind them of who was playing the game and where each player sat. The black role model asks the two black students to rank order each game player on seven different criteria. The seven criteria are: (a) who said the most during the game, (b) who had the best ideas, (c) who did you like best, (d) who do you think is the best fighter, (e) who is wearing the sharpest clothes,

(f) who would you want to play like, (g) overall, who was the best player.

At the conclusion of the study in each school, data was gathered about the abilities, achievement scores, IQ test results, and parental background for each student in the population.

Summary of Design and Statement of Hypothesis

The study takes place in a field setting at three different schools. Each group is composed of two black and two white students assigned randomly to either an experimental or control condition. Fourteen groups were run for each condition or a total of twenty-eight groups.

In the control condition both blacks and whites receive the same neutral training procedure including the basic rules for playing the game of strategy. The training is given to the whole group, separating racial pairs into two different rooms.

In the experimental condition black subjects receive an assertion training while the white subjects receive the neutral control training procedure. Following the training period the group re-assembles in the game room and plays the game of strategy. Observers score initiation and influence to document the emerging power and prestige order for each group.

The main hypothesis tested in this study is the following: a status ordering, based on a diffuse status characteristic that would form on a co-operative group task, can be altered by utilizing the social-learning techniques of peer modeling and guided participation to modify the behavior of low-status participants.

CHAPTER IV

RESULTS OF PRIMARY ANALYSIS

The main hypothesis to be tested is that an expectation training, utilizing social-learning principles, can change a status ordering that is highly related to the value of a diffuse status characteristic. There are three main comparisons to consider in order to test our hypothesis. First, are we correct in our assumption about the power of the positive state of the diffuse status characteristic, in the absence of interventions, to predict the power and prestige order? To answer this question we will look at the control condition where blacks and whites receive the same preparation to perform the new task--a preparation that, theoretically, does not favor anyone.

Second, assuming we are correct in our first prediction that blacks will be in a subordinate status position compared to whites in the control condition, we will look at the experimental condition. In the experimental condition the black students receive the expectation training. In this case we will compare the status rankings of the blacks with the whites to see if an equal status distribution were achieved or a status arrangement that favors one race over the other were formed.

Third, we will compare the situation of the black students in the experimental condition with the performance of the black students in the control condition. Our prediction is that the status position will show a marked improvement for the black students from control to experimental.

There are two primary measures used to determine the status ordering in this study, rates of initiation and influence. Other small-group work, particularly that of Slater, gives us confidence that rates of initiation correlate highly with such perceived qualities as best leadership, most guidance, and best ideas. (Slater, 1955) Rates of initiation also correlate with other categories in the observable power and prestige order: performance, action opportunities, positive evaluations, and negative evaluations. (Cohen, 1969)

The influence measure used in this study is the second important indicator of the power and prestige order. It is the same measure as that used in the Cohen study and it tells us whose ideas were most accepted by the group in their fourteen final decisions.

Tables 1 and 2 are the most helpful in looking at initiation rates as an answer to the three comparisons relevant to the main hypothesis.

Table 1 summarizes the frequency that a particular rank order position was held by black and white participants

TABLE 1

NUMBER OF TIMES A RANK ORDER POSITION WAS HELD BY BLACK AND WHITE SUBJECTS BASED ON INITIATION RATES--IN TWO CONDITIONS

Condition	Race	High Ranks 1	2	Low Ranks 3	4	Average of all Ranks
Control n=56	Black n=28	2	9	6	11	2.93
	White n=28	12	5	8	3	2.07
Experimental n=56	Black n=28	6	12	4	6	2.36
	White n=28	8	2	10	8	2.64

N = 28 Total Four-Man Groups

TABLE 2

MEAN NUMBER OF ACTS INITIATED FOR BLACK AND WHITE SUBJECTS RANKED BY ACTIVITY--FOR TWO CONDITIONS

Condition	High Activity Race Black I	White I	Low Activity Race Black II	White II	Totals Black	White
Control Mean Acts Per Game	37.0	44.7	23.3	31.8	30.1	38.2
Exper. Mean Acts Per Game	44.7	40.1	37.3	28.4	41.0	34.3
					n=56	n=56

in the experimental and control conditions. In the last column the rank order frequencies for all subjects of a given race in each condition are averaged to give a mean rank score.

TABLE 2A

STATISTICAL COMPARISONS OF INITIATION RATES BY RACE AND ACTIVITY CATEGORY FOR TWO DIFFERENT CONDITIONS, CONTROL AND EXPERIMENTAL--USING THE MANN-WHITNEY U TEST

Comparisons	Groups	Level of Significant Differences
	Control	
1	Black I versus White I 37.0 < 44.7	$p < .05$
2	Black II versus White II 23.3 < 31.8	$p < .01$
3	All Blacks versus All Whites 30.1 < 38.2	$p < .01$
	Experimental	
4	Black I versus White I 44.7 > 40.1	Not significant
5	Black II versus White II 37.3 > 28.4	$p < .01$
6	All Blacks versus All Whites 41.0 > 34.3	$p < .05$
	Experimental and Control	
7	Black I (E) versus Black I (C) 44.7 > 37.0	$p < .05$
8	Black II (E) versus Black II (C) 37.3 > 23.3	$p < .01$
9	White I (E) versus White I (C) 40.1 < 44.7	Not significant
10	White II(E) versus WHITE II(C) 28.4 < 31.8	Not significant

If we use a chance level model the average rank for a group with four ranks would be 2.5. This is determined by adding the ranks and dividing by the number of group members. The value of 2.5 is a helpful baseline

figure in other ways. Any average above 2.5 indicates the collection of individuals was especially likely to hold low-status positions when they interacted with a different type of individual in groups. An average below 2.5 indicates the opposite situation--these individuals were more likely to hold the top rank order positions on initiation. (Rank 1 = the high man)

Table 1 provides important information for the first comparison between black and white subjects in the control group. We see that whites hold the top rank 86% of the time (12/14) and that whites hold the first or second ranks 61% of the time (17/28). The difference in average rank orders is more striking. The average rank for white subjects is 2.07 compared to 2.93 for black subjects. These data support the prediction of greater activity for the white race in the control groups.

What happens in the experimental situation? We now consider the second comparison relative to our main hypothesis. In this situation we see that whites are somewhat more likely to hold the first rank (8 vs. 6) but when the top two ranks are combined eighteen blacks are in one of these two ranks but only ten whites, that is, in 64% of the experimental groups blacks hold one of the high-ranking positions.

The average rank of blacks in the experimental condition is now below the chance level of 2.5 at 2.36

while the white average, of necessity, is above 2.5 at 2.64. Thus the black students in the experimental situation not only improved their position from the control but ended up holding a slightly stronger overall ranking than the white students.

These same data allow us to compare the positions of only the blacks in the experimental and control conditions. Since the number of groups is the same in both conditions we can directly compare the frequencies that rank order positions were held by blacks. The results show blacks held the higher two ranks with more frequency in the experimental condition than they did in the control situation. Using rank orders gives us just one reflection of what takes place in an experiment. The actual initiation rates gives a much clearer picture of how participation was distributed in the groups.

Table 2 presents the average initiation rates for black and white subjects in the two different conditions, experimental and control. In addition, the information in Table 2 is presented for each individual ranked by activity rate within the two races. In other words, one of the two blacks in each group is selected by initiation rate as more active and he is categorized in the table as "High Active." The whites in each group are ranked and categorized in the same way. Thus we can make racial comparisons within relatively active and relatively inactive categories.

Looking at Table 2 we can add some information to our main assumption that whites will dominate the task activity in the absence of an intervention. The first row with the heading "Control--Mean Acts Per Game" shows the pattern of white dominance of initiation rates in the control condition. The more active whites average 44.7 units of interaction per game compared to the more active blacks, who average 37. The less active whites are similarly more active (31.8 mean acts) than the less active blacks (23.3 mean acts). Combining both activity categories, it is not surprising that the total white average initiation rate is higher than the black initiation rate. Again, we see a pattern of white dominance in the control group.

Moving to the second comparison, which is concerned with the effect of our expectation training, we can look at the second row of Table 2 titled "Experimental--Mean Acts Per Game." Here a different pattern emerges than the one we saw in the control condition. The more active blacks now average a higher initiation rate than the more active whites. This pattern is repeated again for the less active blacks. In the experimental groups, the less active blacks talk more than the less active whites. According to the index of initiation rates, the status ordering in the experimental condition is the reverse of the control condition.

Table 3 reports the same basic information as Table 2, only the initiation rates have all been converted

TABLE 3

MEAN PERCENTAGE OF TOTAL INITIATION FOR BLACK AND WHITE SUBJECTS RANKED BY ACTIVITY--FOR TWO CONDITIONS

Condition	High Activity Race Black I	High Activity Race White I	Low Activity Race Black II	Low Activity Race White II	Totals Black	Totals White
Control:Mean % Group Init.	.27	.33	.17	.23	.44	.56
Exper:Mean % Group Init.	.30	.26	.25	.19	.55	.45
					n=56	n=56

into percentages. In the control condition white subjects account for 56 per cent of the interaction. This situation changes in the experimental condition, as mentioned before in Table 2, where black subjects now account for 55 per cent of the total interaction. Table 3 repeats the interaction patterns of Table 2, the status ordering which favors the white subjects in the control condition are reversed in favor of the black subjects in the experimental condition.

The results of Tables 2 and 3 raise an important question which will be dealt with in the interpretation section: do you accomplish improvement of black performance at the cost of diminishing white activity? The main comparison to be made is the change in the white subjects'

initiation rates from the control condition to the experimental condition. The results of Table 2 show that both white activity groups lose an average of four units of initiation from the control condition to the experimental. This decrease, however, is not significant using the Mann Whitney U Test. (Siegel, 1956, pp. 116-127)

The influence measures gives us another independent indication of any changes taking place in the status ordering. The results are summarized in Table 4, where influence

TABLE 4

INFLUENCE MEASURE: TOTAL NUMBER OF UNIQUE SUGGESTIONS AND PATHS FOLLOWED FOR BLACK AND WHITE SUBJECTS IN EXPERIMENT AND CONTROL CONDITIONS RANKED BY ACTIVITY

Condition	Influence Measures	High Activity		Low Activity		Totals	
		Black I	White I	Black II	White II	Black	White
Control	Total Suggestion	119	155	60	90	180	245
	Total Paths	53	89	16	40	69	129
Exper.	Total Suggestion	145	124	86	85	231	209
	Total Paths	91	99	32	25	123	74
						n=56	n=56

attempts and successful influence attempts are totaled by race, activity rank, and condition. Our method for presenting these results will involve the same three comparisons we made for initiation rates. In the control condition

whites in each activity category made more influence attempts and were more influential than the blacks in their respective categories.

In the experimental condition the more active blacks made twenty-one more suggestions and were almost twice as influential as the more active whites. Among the less active blacks there is no difference in suggestion rate between the races, although the less active blacks were slightly more influential. As in the initiation rates, blacks in all categories improved their rate of suggestion and amount of influence from the control situation to the experimental situation.

Expectation Training Results

During the expectation training each black pair of participants watched two, four-minute, video-tape excerpts of previous groups who have played the game "Kill the Bull." Following each excerpt the two black subjects were asked to rank order all four participants that they watched on seven different measures. The results are summarized in Table 5 for the two video tapes, A and B. The values in Table 5 represent the average rank order assigned to each participant by the twenty-eight black subjects in the experimental condition. For each video film the overall results of rating the black role model are clear. The first two questions refer to skill at the game while the

TABLE 5

MEAN RANK GIVEN TO PEER MODELS IN TRAINING FILMS BY BLACKS
FOR TASK BEHAVIOR AND PERSONAL CHARACTERISTICS

	Tape A				Tape B			
Questions	White I	White II	Target Black	Black II	White II	White I	Black II	Target Black
A Most Talkative	2.6	2.9	1.0	3.1	3.7	2.6	2.5	1.3
B Best Ideas	2.2	2.9	1.2	3.2	3.4	2.4	2.6	1.5
C Most Liked	3.1	3.3	1.3	2.3	3.6	3.0	2.2	1.3
D Best Fighter	3.5	3.4	1.5	1.6	2.4	3.6	2.5	1.4
E Best Dressed	3.4	2.4	2.3	1.9	3.7	2.3	1.7	2.3
	n= 28				n=28			

(n = total number of black subjects who made ratings of films)

last three items are personality-impression questions. The results show that the target black receives the highest rank on every question except for item E.

Tapes A and B were originally chosen for somewhat different purposes. Tape A has one black who clearly is in control of the entire group. Tape B shows two blacks working in coalition to influence the group. Still, one black is dominant but the other black is active in his own way and the two often work together to influence the group.

The results of Tape B show that the average rank order of the less active black is almost the same as the more active white. On the more personal items (C, D, and E) the less active black was ranked higher more often than the more active white.

One curious result, somewhat an anomaly, occurred with item E which asked the blacks to rank order the videotape participants with respect to who was wearing the sharpest clothes. The results indicate that the less active black was usually ranked highest and the more active target black commonly held position two or three. Why did a deviation occur on this one item? No explanation is available. None of the staff ever saw any marked differences in clothes.

On the last two items, question F and G, only one answer was required. (See Table 6) We asked, "Who would you like to play like?"; and "Who was the best player?"

TABLE 6

PERCENTAGE OF BLACK SUBJECTS WHO CHOSE A SPECIFIC PEER MODEL AS THE MOST OUTSTANDING PLAYER ON TWO ITEMS

Questions	Tape A				Tape B			
	White I	White II	Target Black	Black II	White II	White I	Black II	Target Black
F Desire to play like	.04	.04	.83	.09	-	.17	.05	.78
G Overall best player	-	-	.87	.13	.05	-	.28	.67
	n=28				n=28			

In film A, the target black was named the outstanding player on both items more than 80 per cent of the time. In film B, the target black was named the most desirable player 78 per cent of the time and was named the best player 67 per cent of the time. The less active black in film B was named the best player 28 per cent of the time.

The main value of the ratings in the expectation training is that the results answer questions as to whether our experimental blacks saw and identified with the behavior we were trying to inculcate. The results also show the degree to which outstanding performance in the task area correlates with a general personality evaluation.

CHAPTER V

INTERPRETATION OF PRIMARY RESULTS

The results basically confirm the hypothesis that an emergent status ordering based on a diffuse status characteristic can be changed by utilizing social-learning principles. According to status characteristic theory it would be expected that whites would dominate the groups in the control group situation. This prediction is confirmed by the results. Tables 1 and 2 give an excellent overview of the white dominance in the control situation.

In Table 1, it is clear that whites tend to hold the top two positions more frequently than blacks. In Table 2, each white activity category has a considerably higher mean rate of initiation than the respective black activity category. Both of these differences are significant at the .05 level using the Mann-Whitney U Test. (See Table 2A, p. 58)

During the experimental condition the pattern of white domination changes markedly. Again, referring only to Tables 1 and 2 we can see how the black participants changed their positions in the status ordering. Table 1 shows that blacks now hold the top positions more than 60 per cent of the time. Table 2 now shows that in the

experimental condition each black activity category has a higher mean initiation rate than the respective white categories.

Table 2 reinforces the conclusion that change has occurred between control and experimental conditions for blacks. It is particularly important to note the degree of change for blacks when divided by activity level in their groups. The most active blacks improve from an average of 37 units of interaction per game to almost 45 units. Even more impressive is the change for less active blacks. Their activity rate jumps from an average of 23 units of interaction per game to 37 units, slightly more than a 60 per cent average increase in talking. This result is particularly striking because in previous studies done by Cohen a considerable number of black participants said almost nothing throughout the experimental treatment. The issue of improving the activity rates of quiet blacks seemed to be a formidable task during those studies. Given the current result in the study, as shown by Table 2, the problem seems much less severe.

What accounts for the difference in activity rates among black participants in the control and experimental situations? The argument to be made is that the expectation training technique based on social-learning principles was the essential difference.

First, we must be confident that the sample populations of blacks and whites were similar in the control and experimental situations. Information was collected after the study on each participant based on the school's official files. The results of this information are reported in Tables 7 and 8 (pp. 68-69). The main conclusion to be drawn from the data is that, after dividing the sample by race, no substantial differences in IQ scores, English achievement, and math achievement occur in the experimental as compared to control condition.

The black experimental population reports a somewhat lower IQ and lower math achievement scores. It should be pointed out that the differences between our black and white populations in terms of parent backgrounds and school performance is substantial.

The lack of systematic differences between our control and experimental black students gives us more confidence that the observed differences between the two groups was a function of our differential training procedure. Looking at our expectation training, what are the main elements of that treatment procedure?

On a theoretical level there are two elements in our expectation training procedure. First, the black students observe a black peer who is an aggressive role model in playing the game. Based on the data presented in the previous chapter we have strong evidence that the

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black students during expectation training rated the target black as highly competent and indicated that they too would like to play aggressively like the target black. Bandura suggests that in order for modeled behavior to be acquired it is important to consider the social consequences received by the model when he acts aggressively. (Bandura, 1969, p. 128) On this basis it is significant that our black role models in the video tape received no aversive consequences for acting aggressively and, instead, the role model was generally rewarded because the group accepted his ideas as to the final group suggestion. Second, a high-status, black role model provides them with some guided encouragement in being aggressive. In this situation the high-status, role model could positively reinforce any desire to be verbally aggressive. Responses are elicited through the three questions he asks the black participants. All three questions ask in different ways, what can you do to overcome any resistance you might face from the other members of the group. As each participant suggests his own way of dealing with the rest of the group, the role model can reinforce all of his aggressive responses.

How much did each of these social-learning procedures contribute to the differences in initiation rates between the experimental and control groups? The present data does not allow us to suggest how much change can be attributed to each intervention procedure. Neither can we

answer any questions about whether or not the same effect could be achieved by only one procedure rather than a combination of procedures. All that can be argued from this data is that the above two social-learning principles when converted into a series of concrete procedural steps were able to change the activity rates of black participants in an interracial task.

The ability to change a status ordering based on racial differences increases our confidence in applying social-learning principles in future interracial situations. The fact that the differences reported in this study are the outcome of a single twenty-minute intervention should be emphasized. The power of social-learning principles suggests that if such interventions were applied consistently over a period of time the effects might be much more lasting on individuals who initially were considered low status by virtue of skin color.

The results of the study should not be interpreted as suggesting educators could immediately create conditions of "equal educational opportunity" for non-white members in integrated schools. Such a conclusion goes far beyond the data at this time, but given some future steps forward in the research, such a statement now seems more probable.

Before conditions of "equality of educational opportunity" can be achieved in a classroom several important research questions still need to be answered. First,

how can one effectively break up a status ordering that has previously emerged and has been previously confirmed for a given task. In this study the task was newly introduced to the participants, and we told the students we had no idea how well anyone would do. The situation in a classroom is strikingly different. Students work in subject areas throughout the academic year and have many opportunities to confirm their expectations as to who will perform well in school.

Once educators are convinced they know how to break up a status ordering based on a diffuse status characteristic for a specific task, then a new problem emerges. This problem can best be summarized as finding the conditions that will maximize transfer of expectations from one task to another. If an individual because of his race is generally expected to perform poorly, then outstanding performance on one task is not likely to generalize to a general expectation for high performance on new tasks. Whyte's Street Corner Society, which is not an experiment but observation in a field setting, suggests that when low-status members perform well it is explained as luck or as an exceptional day. (Whyte, 1955)

Let us assume that research in time will suggest not only how status orderings based on status characteristics can be reversed but how conditions of transfer operate from task to task. In short, within a limited

time period researchers may understand and be able to demonstrate that in a technical sense, equality of educational opportunity can be achieved in a classroom or school.

As our technical ability increases researchers would be more confident about entering the complex and sometimes unwieldy field situation where the reality of status differences is worked out every day. In the field situation not only are the problems and forces at work more complex than the laboratory situation but less control can be exerted over the crucial independent variables. In the field situation there is a much greater reliance on the good will and motivations of participants than in the more highly controllable, small-group experiment.

This does not argue against the advisability of researchers taking their findings to field settings for application; it only suggests that the gap between social-science, technical findings and corresponding changes in society's institutions may be decades apart.

Most of our analysis has focused on black behavior and changes in activity rates among blacks. How about the white population? Although their attitudes and beliefs were not manipulated by this study they faced blacks who behaved quite differently depending on the treatment.

We know that blacks increased their initiation rates from control to experimental conditions. We also know that the rank orders and the relative status of

whites dropped from the control to experimental condition as shown in Table 2. But it is important to look at the changes in initiation rates for whites from control to experimental. Although the mean rates for all whites did drop somewhat, the change is a small one and not statistically significant. The meaning attributed to this could be a significant feature of future experiments.

We never thought it a desirable goal to replace control groups of white domination with experimental groups of black domination. Instead we are seeking to establish equal status conditions. The model for a condition of equality of educational opportunity was defined earlier as a similarity in the distribution of performances or outcomes for blacks and whites. The fact that larger increases in black activity rates did not seriously suppress the white students' performance is an encouraging feature of the experimental work. This interpretation must be modified when we re-analyze the data in Chapter VI after grouping the results according to the two different cities. It suggests, tentatively, that increases in competency of low-status individuals does not necessarily move to result in a depression of performance of high-status individuals.

CHAPTER VI

RESULTS OF SECONDARY ANALYSIS

This experimental study was carried out in two very different communities. Because these communities are different it is important to re-analyze the data after dividing our results into the two respective cities. Before presenting these re-analyzed data it is important to discuss briefly the communities and schools from which our student samples were selected. When comparing these two communities as represented by the selected schools and the small sample in our experiment, there are three main differences to present. First, the distribution of high-status occupations is very different. Second, there is a considerable difference in the school climates. Third, the measures of student achievement on verbal and mathematics tests are very different for our student samples from the two communities.

Let us start by presenting some general impressions of the two communities. Two of the schools are in a suburban city of approximately 50,000 people. In many important ways the two schools are similar and for purposes of discussion we will combine the two schools under the heading "suburban school." The third school in our sample

is located in a "fringe" city, which borders one of the large cities in the Bay Area.

As communities there are some obvious differences between Suburb and Fringe City. Suburb City has three main neighborhood sections. For purposes of discussion I will talk about the neighborhood sections of Suburb City by using titles that should give a partial visual impression of the community. First, there is "Old Town" neighborhood which consists of large and substantial older homes built on the hills overlooking the Bay. "New Town" neighborhood consists of moderate-to-expensive, ranch-style homes also sitting on the hills overlooking the Bay. The New Town neighborhood has been built very recently and sits in a series of cluster developments in one large section of town. Both Old and New Town neighborhoods of Suburb City are almost exclusively white. Whatever sprinkling of minorities exists in these areas constitutes a small and unknown portion of the population. "Flat Town" neighborhood mingles with the downtown area of Suburb City and spread to the Bay shoreline. Although white families constitute the largest percentage of people living in this area, there is a considerable number of pockets of all black and integrated neighborhoods.

Recently the School Board of Suburb City has attempted to integrate the entire school system. In this effort, the black children, the only significant minority

group in the population, have been given a choice of several schools in an effort to establish ethnic balance. The result is that black students constitute between five and ten per cent of the student bodies in each school.

The community of Fringe City gives a very different appearance. The town is squeezed between two low mountain ranges and the result is that homes in this community have neither a view of the Bay on one side nor ocean on the other. The housing is somewhat uniform throughout. Almost all the homes are part of the post-war building boom which took place in the Bay Area. The popular song about "Tickey-Tackey Boxes" is one way of describing homes in Fringe City. The population of this city is near 40,000 with whites and non-whites tending to live on different sides of town. In the school used for this study the ethnic breakdown was about 30% whites, 30% blacks, 30% Mexican, and 10% other non-whites. This one school selected for our study is considered to have one of the highest concentrations of non-whites in its school population. Most other schools in Fringe City tend toward a high concentration of white students.

Given these overall differences between Fringe and Suburb City it is not surprising that the school climates would also be different in the two cities. Although Suburb City has had its share of racial flare-ups and hostilities, there is an observable atmosphere of friendliness

among the members of Suburb City schools. Some teachers often spend time casually with students on the playground and several black male students openly display their affectionate relationships with white female students. Several teachers in Suburb City schools were very curious about our study and in their discussions about integration often exhibited a pride in being able to work in integrated schools throughout the district. The counselors gave evidence of spending considerable time in planning with teachers positive and innovative interracial experiences. Overall the school has a serious but markedly friendly atmosphere while school is in process.

The atmosphere of Suburb City schools is in marked contrast to the one school we visited in Fringe City. At Fringe City the climate of the school was filled with daily tension and friction and an air of "just holding on" or "making it" from month to month. The students openly refer to the school as a prison and there is evidence to back this popular expression about the school. Everyone makes a fuss about hall passes and individual movement in the halls is carefully monitored; failure to have a pass is punishable. Empty rooms are always locked and literally sealed off to students. During my visits to the school playground at lunchtime, which was a daily routine for two weeks, I rarely saw any open exchange between students and teachers. On two of the days police were

called to the school because of drug abuse problems which created a noisy ferment among the students. On Malcolm X's birthday the local high school Black Student Union presented a program to the junior high students in an obvious attempt at radicalization of the young. The junior high students needed only a little encouragement and soon a large shouting match ensued between students and teachers and the Vice Principal, who always tried to get in the last word in any argument. The counselors' office was a favorite "hangout" for disruptive students who disliked sitting in class. Slight disruptions would be an easy cause for teachers to send certain troublemakers out of the room and the guidance office provided a place for reading comic books and time for hours of good laughs. In addition to the guidance office, more regular troublemakers were sent to a special room where commercial television was shown all day long.

The guidance officials and a few teachers paid "lip service" to changing the curriculum or improving intercultural relations but most teachers seemed to agree with the Vice Principal who said to me more than once, "This place is hopeless but somebody has to keep these kids in line."

Fringe City school teachers showed no interest or curiosity in our work or presence. Once I attended a small staff meeting among counselors and social-studies

teachers who were discussing for the first time the use of multi-cultural textbooks. The meeting soon bogged down because every suggestion which implied teachers would have to do something new or work longer on a curriculum project was met with complaints about overwork. The net result of that meeting was no change.

Tables 7, 8, and 9 give some important background information about the students, black and white, in the two cities.

Table 7 shows the mean IQ scores for black and white students based on the Lorge Thorndike IQ Test. Each individual score represents an average of the verbal and non-verbal scores of the test.

TABLE 7

AVERAGE IQ SCORE OF BLACK AND WHITE SUBJECTS IN SUBURB AND FRINGE CITIES FOR EXPERIMENTAL AND CONTROL CONDITIONS

Race	Suburb City		Fringe City	
	Experimental	Control	Experimental	Control
Black	88.5	98.4	86.3	89.5
White	110.2	114.3	101.2	109.4
	n=36	n=32	n=20	n=24

Table 8 shows the average number of years and months each group of participants are either ahead or behind the grade level norm for their age group. The scores represent a composite verbal and math achievement

score based on the Stanford Achievement Tests. The verbal score is an average of spelling, word meaning, and paragraph meaning. The math score is an average of computation skills, word problems, and math concepts.

TABLE 8

AVERAGE NUMBER OF YEARS ABOVE OR BELOW NATIONAL GRADE LEVEL PERFORMANCE IN MATHEMATICS AND VERBAL ACHIEVEMENT TESTS FOR BLACK AND WHITE SUBJECTS IN SUBURB AND FRINGE CITIES BY EXPERIMENTAL AND CONTROL CONDITIONS

	Suburb City				Fringe City			
	Experimental		Control		Experimental		Control	
Race	Verbal	Math	Verbal	Math	Verbal	Math	Verbal	Math
Black	-1.5	-2.1	-1.5	-1.4	-2.9	-1.7	-2.2	-2.0
White	+0.1	+1.2	+0.6	+0.5	-0.2	-0.4	+0.0	-0.7
	n=36		n=32		n=20		n=24	

Looking at Tables 7 and 8 together we can make further inferences about differences between our student samples in the two communities. The black students score significantly lower on IQ tests and achievement tests than do the white students. In addition to the racial difference there is an overall school difference. Whites and blacks in Suburb school tend to score slightly better on Achievement tests than their racial counterpart in Fringe school. These differences in performances are in line with the differences in the parental backgrounds of each racial group in each school.

Table 9 gives this information and we can observe that almost no student, black or white, has a parent who is in a professional or managerial position in Fringe City. On the face of it the occupational distribution for black and white students is not too different in Fringe City except for unskilled labor. A common source of employment for black fathers was a nearby shipyard and many of the white fathers were truck drivers.

TABLE 9

PERCENTAGE DISTRIBUTION OF FATHER'S OCCUPATION INTO FIVE CATEGORIES FOR BLACK AND WHITE SUBJECTS AT FRINGE AND SUBURB CITIES

		Occupation						
City	Race	Prof.	Mgr.	Semi-Skilled	Skilled	Unskilled	Total	
Suburb	Black	.15	.03	.19	.30	.33	100%	n=34
	White	.35	.20	.32	.13	.00	100%	n=34
Fringe	Black	.00	.00	.19	.27	.54	100%	n=22
	White	.00	.09	.29	.27	.35	100%	n=22

In Suburb City we can see that among white children the majority of parents have professional or managerial occupations. The black children's parents are more spread out into different occupational categories than in Fringe City but the balance is still in the direction of semi-skilled and unskilled workers. Overall the social-class background is higher for children in Suburb City than

Fringe City, as measured by the distribution of occupations among participants in this study.

The first part of this chapter has suggested that the differences between the two communities in our study are sufficiently great for us to characterize Suburb City as having a higher social-class content than Fringe City. Further the climate of the schools in Suburb City is generally viewed as positive while the general school climate in Fringe City is hostile and tense. Finally, the IQ scores and Achievement levels of our student sample in Suburb City was generally higher than those in Fringe City. Given these differences between the two communities what impact did this have on the results of the study?

A secondary analysis of the data reveals some interesting results. This analysis involves splitting the data on the basis of the city in which the subjects lived.

Table 10 gives two important pieces of information. First, it summarizes the mean acts initiated by activity ranks within race. This is similar to the procedure of analysis followed in Tables 2 and 3. Second, the data has now been split by city which is a general indicator of social class. Two schools where nine experimental and eight control groups were run were combined under the "Suburb City" heading. One school where five experimental and six control groups were run have been analyzed as "Fringe City"--a relatively low social-class area.

TABLE 10

MEAN AND PERCENTAGE INITIATION RATES OF BLACKS AND WHITES RANKED BY ACTIVITY AND DIVIDED INTO FRINGE AND SUBURB CITIES FOR EXPERIMENTAL AND CONTROL CONDITIONS

Condition	City	High Activity Race		Low Activity Race		Total	
		Black I	White I	Black II	White II		
Control	Suburb	33.3 27%	40.4 32%	22.6 18%	28.0 23%	100%	n=32
	Fringe	41.8 27%	50.1 33%	24.1 16%	37.0 24%	100%	n=24
Experi-mental	Suburb	47.0 28%	48.2 29%	37.4 22%	34.0 21%	100%	n=36
	Fringe	40.6 34%	25.4 21%	36.6 30%	18.0 15%	100%	n=20

The results in the control condition are markedly similar in both social-class areas. In both cases whites are generally more active than blacks and the percentage distribution in each activity category is almost the same. Table 10 shows that no racial-activity category differs by more than two percentage points when comparing the control group results for Suburb City with Fringe City.

The results among the experimental group are very different from the control group findings. The differences in the cities, school climates, and students make a big difference when the expectation training is administered. The different social-class contexts appear to affect the results markedly. In the suburban city, among

the experimental groups, the top-ranking blacks and whites were equally active; the same pattern of equal activity rates held for the less active blacks and whites. In addition, in Suburb City every category of racial activity increased its mean initiation rate by twenty per cent or more when comparing the control groups with the experimental groups.

This pattern of equal distribution between races does not repeat itself among the lower-class sample. Among the experimental groups both blacks were very active when compared to the whites. In this situation the least active black category has an average initiation rate eleven units higher than the whites in the high-active category.

All of these patterns are re-emphasized in a different way in Table 11. In this table every group is categorized as to city and condition treatment. After the group participated in the study and the percentage of initiation is calculated by race, the group is placed in one of three interaction style categories: white dominated, equal status, and black dominated. The determination of a group's interaction style is based on the amount of initiation controlled by the members of one race.

The cutoff point is, by necessity, arbitrary although clinically there is some evidence to support the limits. By clinical evidence we mean that there is a

TABLE 11

PERCENTAGE OF GROUPS SHOWING RACIAL DOMINANCE AND RACIAL EQUALITY IN TWO CITIES--FOR TWO CONDITIONS

Condition	City	White Dominated	Equal Status	Black Dominated	Total	
Control	Suburb	62%	38%	00%	100%	n=8
	Fringe	66%	33%	00%	100%	n=6
Experimental	Suburb	11%	66%	22%	100%	n=9
	Fringe	00%	20%	80%	100%	n=5

(n = the number of four-man groups)

relationship between what an observer watching a group would record and the computational boundaries used to determine the difference between a racially dominated group and an equal status group. The method for doing this is not precise but probably satisfactory for this level of analysis. During each game which was being scored for initiation by two independent observers, the author of this study made observational impressions of the group interaction and tried to indicate generally if one racial group seemed to dominate the interaction. The observations were compared to the observers' results for initiation rates and we arrived at 55 per cent as a cutoff point for differentiating racial dominance from equal status. Any group where one racial pair accounts for 55 per cent or more of the interaction is judged to be dominated by that

racial group. If the initiation rates for both races are between 45 and 55 per cent, then the group is labeled "equal status."

Table 11 shows the general predominance of white-dominated groups in the control condition regardless of social-class context. No black-dominated group occurred in our control sample.

The large percentage of equal-status groups in the Suburban City sample in our experimental condition is very clear. Among experimental groups in the Fringe City school the pattern shifts to one of black dominance.

CHAPTER VII

INTERPRETATION OF SECONDARY RESULTS

The results of the experimental expectation training produced very different effects in the two different school communities. The results in Suburb City show a marked equality in the distribution of initiation rates. As an observer it was very apparent that in almost all of the experimental groups in Suburb City everyone was able to participate in the decision making. Individual differences showed up in every group but the importance of race in predicting those differences seemed very slight.

In Fringe City school the expectation training resulted in an almost overwhelming domination by the black participants. Both the more active and less active blacks talked considerably more than either activity group of whites. The differences are not only significant but considerable in magnitude. The same point is made again in Table 11 when the experimental groups at Fringe City school produced four out of five black-dominated groups. The observational impression gained from watching the experimental groups at Fringe City school was that both black students took over the game; the white students were lucky to voice an opinion.

How do we account for this difference in the effects of our training procedure and what are the implications for future research? My inclination is to consider the differential school climates as an explanation for the differences in results. I have argued previously that the atmosphere in Fringe City school was hostile and tense. Three ethnic groups constitute the bulk of the school's study body: blacks, whites, and browns (Mexican-Americans). Of the three the blacks appear to control the peer group's power structure. Playing fields are dominated by blacks during lunch and recess and some of the black students have a "free run" of the school that no other group currently can match. That is, some black students are able to move in and out of different classes and sometimes they do not arrive for attendance in the morning but come around school for a few hours each day.

At Suburb school not only is the black-student population very small (ten per cent or less) but the atmosphere of friendliness does not allow for flagrant amounts of bullying by any one person or any one group over someone else. At Fringe City I assume that our expectation training primarily encouraged and legitimized the prevalent form of bullying and therefore black students carried out in the experimental game what they are able to do in the informal peer structure around the school.

What are the implications for the differences in results at the two schools? The results are very encouraging at Suburb school. Raising the low-status, black-student competency had the effect of also raising the performance output of white students. That is, Table 10 shows white students at Suburb school increase their initiation rates, on the average, by twenty per cent when comparing control to experimental groups.

This suggests that for the game and other school tasks that learning in the classroom does not have to be zero-sum game. In other words the cost of improving low-status performance is not a deflation of high-status performance. Potentially this finding could have very positive results in the school where teachers might be very upset about any training procedure that consciously tries to improve one group's performance at the expense of another group.

The results of Fringe City school raise more difficult questions. On the abstract level there is a theoretical and value position which must be explored. Status characteristic theory has documented the emergency of very stable status orderings based on the irrational basis of diffuse status characteristics. Implicit in much of the research is the value position that giving people power on the basis of a social-status characteristic instead of demonstrated expertise on specific tasks violates

a basic value premise of a democracy where merit is to be the judge of a man's ability.

Status characteristic theory has never attempted to explicate a model of power distribution based on the value premises of "equality of opportunity." We have suggested here, borrowing from Coleman, a meaning for equality of opportunity but this value premise has not been imbedded into any social-science theoretical model. The issue raised by the results of Fringe City is the possibility that our expectation training procedures may have the effect of replacing one irrational status ordering with another. Paraphrasing the words of Camus, what you have done is reverse the roles of the downtrodden and the executioners.

At some point we must discuss the implication of changing the status ordering in school based only on racial background. Potentially the techniques and principles developed in this research should not only be applied to different racial groups but also to other groups of individuals who perform poorly for reasons other than limited brain capacity. The implications are that education would have to cease being a zero-sum game. The possibility of improving one group's performance at the expense of another leads only to a series of power struggles that does little to improve the educational climate in this society.

Future Research

Now that this research study has been done what future research should be undertaken? My own priorities are to pursue the following direction. First, I would like to gain more confidence in some principles and procedures for changing an interpersonal status ordering that already exists for a given task. By an interpersonal status ordering I mean a status arrangement that exists not only on the basis of some diffuse status characteristics like race or social class but has been confirmed on the basis of an individual's face-to-face performance with a group of individuals. In this case the behavior of the host experimenter with his powerful ability to make differential evaluations might be very useful in designing an effective expectation training. Some of these techniques have been used very successfully by the Laboratory for Social Research at Stanford. In their studies they have been able to successfully manipulate the expectations an individual holds for another partner by manipulating evaluations an individual receives for performance on an ambiguous task.

This next study would be a preliminary step for trying to enter a classroom situation. Here I would like to plan with a teacher a series of interventions that would change the expectations held by non-white children about their own abilities to do school work and also

change the expectations held by white children regarding the ability of non-whites to perform well in school.

In the classroom situation our main concern is how a condition for transfer can be established. We may be confident that we know how to train low-status individuals to perform well on a series of new tasks in the presence of high-status individuals. But how can this outstanding performance on a few tasks transfer to a set of general expectations that low-status individuals will be able to do well on other school tasks.

As stated earlier, it is my own judgment that studies such as the one described by this thesis and the future studies proposed by this chapter are part of a series of explorations that will help educators understand how equality of educational opportunity can take place in racially integrated schools.

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APPENDIX A

KILL THE BULL

"Kill the Bull" is a board game of strategy played by a group of four persons. It consists of numerous paths leading from "Start" to "Goal." The object of the game is to reach the goal in as few moves as possible and to score as many points as possible. The instructions are as follow:

1. There are fourteen turns, or throws of the die, to reach the goal. More than fourteen turns will lose all accumulated points.
2. The group may move in any direction it wishes. All decisions as to which path to take must be group decisions.
3. Each path is divided into numbered squares. Red numbers win points for the team. Blue numbers lose points for the team. Pink numbers with double minus signs (--) lose a turn for the team. Brown numbers with double plus signs (++) add an extra turn for the team.
4. If the team does not reach the goal within fourteen moves it loses all of its accumulated points.

APPENDIX B

STUDENT CONTRACT

I, _____, promise for one month not to tell anyone about the Stanford Education Study, in which I, _____, just participated. If I, _____, and the other students live up to this agreement, then I will receive one dollar as a payment for participation in this study.

Payment will be made when the study has ended at my school.

_____

_____

Researcher

APPENDIX C

RELIABILITY OF OBSERVERS

An important technical question concerns the reliability of the observers. The discussion on reliability focuses on the main behavioral measure taken during the game of strategy--an initiation index as an indicator of the power and prestige order.

Statistics for measuring the reliability of two observers vary in rigor and strength. The approach taken in this appendix has been to consider the nature of the data that was analyzed and then consider an appropriate reliability measure as a means of gauging a degree of confidence in the data.

For example, the main hypothesis to be tested is that an experimental treatment had a differential effect from a control treatment on subjects defined as low status. One of the statistics used to make this comparison involved rank orders on initiation rates for black and white subjects.

The procedure used to obtain the values reported in the research was to average the results of two independent observers. Several questions should be answered. How reliable are these observers with each other when

ranking individuals in a group on initiation? With regard to data on rank orders the following sub-questions will be answered in order to answer the larger question concerning reliability.

1. How many groups did both observers agree perfectly on the rank order of black and white subjects?

Table A

	No. of Groups	No. of Group in which 2 independent observers had perfect agreement on rank orders
Experimental	14	5
Control	14	11

The results show that much greater perfect agreement was reached among the control condition groups. This makes sense since the control condition allows differentiation to take place in group performance according to the status characteristic expectations without intervention. In the experimental condition, with an intervention raising low-status behavior, the data is more likely to be similar for all subjects in a group and thus a greater chance factor for observers to disagree.

2. Among the rank order disagreements according to observers how many involved group members of the same race and how many involved members of different races?

Table B

	No. of Cases involving disagreement among 2 indep. observers	No. of Cases in which disagreement involves subjects of	
		Same Race	Diff. Race
Experimental	9	4	7
Control	3	1	2

This is important because we want to know if the reported differences between control and experimental groups could have occurred by chance alone favoring one racial group systematically. When disagreements about rank order position occur among group members within the same race category, then the data on rank order positions is not influenced.

Among the groups where observers differed in ranking members of different races we want to know if the bias favored one racial group.

Table C

	No. of Cases where 2 independent observers differ involving different races	No. of Cases favoring	
		Whites	Blacks
Experimental	7	5	2
Control	2	2	0

The situation for the control groups is trivial. Only two subjects are involved and only one rank order has

been displaced in each case. Both situations favored the white subject. In other words the observer who scored the white subjects higher did so more than the other observer who scored the black subject higher. The slight bias suggests that the difference reported between black and white subject rank orders (see Table 1, p. 43) should be slightly less than our table shows, but only by a very small amount.

In the experimental condition there was a greater frequency of disagreement between observers over ranking members of different races. The results when averaged almost always favored the white subjects. Therefore the effect we showed in Table 1, page 43 was possibly not as strong as it might have been with less observer bias. In other words the treatment was potentially more effective for low-status individuals than our averaged tables will show. Again this potential bias did not affect in any significant way the overall results.

3. How many times did observers agree about the rank order of individuals?

Table D

	Agree		Disagree	
	Black	White	Black	White
Experimental	15	21	13	7
Control	25	21	3	7

Table D shows the very high agreement reached by observers in the control conditions. In the experimental condition observers have considerable difficulty agreeing on rank orders for black subjects. The simplest explanation is that as the data comes closer together among individuals random error is going to be greater.

Since the problem is mainly with the black subjects in the experimental condition one might argue that some kind of observer-subject interaction is taking place. Of the thirteen disagreements, seven involved black-white differences, the implications of which have been discussed in Table C.

In summary, the agreement on rank order position was good for control and experimental conditions. The tables do suggest that in the intervention situation where equal status interaction is more likely to occur (see Table 10, page 72), that there is a greater probability for disagreements in rank order to take place.

In addition to rank order data several tables were presented to show differences between conditions and races on the basis of total initiation rates. The question of reliability in this case is how confident are we in the mean numbers for each racial group or experimental condition. Two sub-questions come under this larger question. How frequently did observers see the same act and assign it to the same person? Are the proportional distributions

of acts to individuals in a group approximately the same for both observers?

Answers to these questions are important. The data were averaged from the two observers to arrive at a mean score result for each individual. We would like to be confident we are averaging population samples from similar universes.

How frequently did observers see the same act and assign it to the same person? The most severe test of reliability, and one that no one has ever followed to my knowledge, would be an act-by-act comparison between the two observers. This breaks down as soon as one observer misses an act and the sequence of comparison is broken.

A more relaxed concept of reliability would be to compare the number of acts attributed to a subject during a given time period. For each subject, S_1, there exists two scores--a score from each observer [S_1O_1, S_1O_2]. Whichever score is greater becomes a denominator and the smaller score becomes a numerator. This fraction of $\left[\frac{S_1O_1}{S_1O_2}\right]$ represents the number of common acts scored and attributed to the same subject. The more frequently this ratio is computed the more confident we are that observers are actually scoring the same act to the same person. The greatest confidence would come from an act-by-act comparison which is impossible under current techniques and the least confidence would come from comparing a total game

score for each individual by observer. The statistic presented here is a compromise of the two situations. Data were analyzed for every four turns during the game of strategy. In other words the total initiation rate was broken down into three divisions of the game--a beginning period, middle period, and final period. The per cent of agreement was computed by summing the results for each of four individuals during three different segments of the game of strategy. The total sum represents the degree of agreement on acts scored and acts attributed by two independent observers.

Table E

PER CENT OF AGREEMENT BETWEEN 2 INDEPENDENT OBSERVERS ON SCORING ACTS OF INITIATION

No. of Groups in which agreement was greater than	No. of Groups
100 per cent	0
95	1
90	8
85	14
80	3
75	0
70	0
65	0
60	1
Total	27

NOTE: Results from one group missing.

The data shows that a high and consistent degree of agreement was reached on all groups except one--group number two. The explanation for the poor results to be

offered on this one group is that our observers were still new at the task and a misunderstanding took place over rules for scoring interaction. In that group one observer scored one and one-half times as many acts as the other observer. When that happens either one observer is too slow, the other is too fast, or the rules for scoring interaction were unclear. The last explanation seems to hold since all other groups were scored relatively consistently after some discussion occurred reviewing the rules of scoring interaction after game number two.

The finaly test for reliability was a chi square test on the distribution of total acts to each of four group members. Instead of presenting data on all groups I have chosen three groups as representative of the data.

Group 9 - This group had the second highest rate of agreement among observers, 94.6%. The raw data were as follow:

	Bl-1	Bl-2	Wh-1	Wh-2
Observer 1	28	24	54	43
Observer 2	28	24	59	42

Chi square value for this group was .116 and with three degrees of freedom there is a .99 probability that the observers were not scoring a different set of data.

Group 2 - This group has already been mentioned as having the lowest percentage of agreement among

observers, 66.4%. Also there was a rank order disagreement between the two observers. Raw data looked like the following:

	Bl-1	Bl-2	Wh-1	Wh-2
Observer 1	19	26	16	28
Observer 2	16	47	27	47

The chi square value for these two observers was 3.85 and there is a .27 probability that the observers were scoring the same interaction. That is a low probability but not necessarily so bad that the data must be rejected.

Group 1 was picked as a group with observer agreement in the middle (rank = 16) at 88.7%. Raw data were as follow:

	Bl-1	Bl-2	Wh-1	Wh-2
Observer 1	25	23	26	38
Observer 2	30	24	24	25

The chi square value for this group was 2.84 or a probability of .45 that our observers were scoring the same behavior.

In summary, the overall reliability of our observers was good on the measures used for behavior in this study. Our measures of behavior are not complex and thus it should be expected that the reliability of observers to agree on

rank order position and total acts initiated should be very satisfactory. I believe the data supports the contention that the results are satisfactorily reliable among two independent observers.

Where differences occurred I attempted to check for any racial bias which would influence our study. In the experimental condition there was some probability of bias against the black subjects and thus the strength of our expectation training results were weakened but by no means lost in the final analysis.